

AMENDMENTS TO THE CLAIMS

1-3. (Cancelled)

4. (Currently Amended) A device for measuring the distribution of selected properties of a material arranged on a conveyor, said device comprising:

an emitter of electromagnetic radiation arranged at one side of said conveyor, said emitter emitting electromagnetic radiation in a multiple of frequencies in a selected frequency range towards said material;

at least a sensor arranged on an opposite side of said conveyor, compared to said emitter, said sensor detecting electromagnetic radiation in said selected frequency range being emitted from said material, said electromagnetic radiation originating from said emitter;

an analyser arranged to receive information regarding said emitted electromagnetic radiation and said detected electromagnetic radiation, said information comprising amplitude and/or phase for each selected frequency, said analyser being arranged to calculate the selected property distribution in said material based on the received information;

an image device arranged to send information to said analyser to create a three dimensional contour of the material, said image device includes at least an one imaging sensor connected to an image processing device, said at least one imaging sensor

detecting an image of said material, which is processed into a three-dimensional contour of said material in said image processing device,

wherein said at least one imaging sensor detects a picture of the reflectivity in optical wavelengths.

5. (Currently Amended) The device according to claim 4, wherein said at least one imaging sensor of a second type is a video camera

6. (Currently Amended) A device for measuring the distribution of selected properties of a material arranged on a conveyor, said device comprising:

an emitter of electromagnetic radiation arranged at one side of said conveyor, said emitter emitting electromagnetic radiation in a multiple of frequencies in a selected frequency range towards said material;

at least a sensor arranged on an opposite side of said conveyor, compared to said emitter, said sensor detecting electromagnetic radiation in said selected frequency range being emitted from said material, said electromagnetic radiation originating from said emitter;

an analyser arranged to receive information regarding said emitted electromagnetic radiation and said detected electromagnetic radiation, said information comprising amplitude and/or phase for each selected frequency, said analyser being arranged to

calculate the selected property distribution in said material based on the received information;

an image device arranged to send information to said analyser to create a three dimensional contour of the material, said image device includes at least ~~an~~ one imaging sensor connected to an image processing device, said at least one imaging sensor detecting an image of said material, which is processed into a three-dimensional contour of said material in said image processing device,

wherein said at least one imaging sensor detects a picture of the reflectivity and transmissivity and propagation speed of sound waves.

7. (Currently Amended) The device according to claim 6, wherein said at least one imaging sensor of a second type is an ultrasound imaging device.

8. (Currently Amended) The device according to ~~any of claims 2-7 and 18~~ claims 4 or 6, wherein said analyser is provided with means to interpolate includes means for interpolating previously measured results, stored in a memory, to obtain the selected property distribution in said material.

9. (Currently Amended) The device according to ~~any of claims 2-7 claims 4 or 6~~, wherein said analyser is provided with means to calculate includes means for calculating

the dielectric distribution in said material and ~~convert~~ converting said dielectric distribution into the selected property distribution in said material.

10. (Currently Amended) The device according to claim 9, wherein ~~said means to calculate~~ means for calculating the dielectric distribution comprises a three dimensional model determining regions within said material where the dielectric function is assumed non-changing, and ~~means to apply~~ for applying said model to said three dimensional contour of the material, whereby a dielectric distribution is obtained.

11. (Currently Amended) The device according to claim 9, wherein ~~said device is provided with~~ means to convert further comprising means for converting said dielectric distribution into the selected property distribution.

12-19. (Canceled)